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ABSTRACT

Linking information to education users goes beyond information organization issues, such as abstracting, indexing, and information filters. It is a social issue as well. This paper focuses upon the social dimensions of education information, as expressed in partnerships needed for the United States Educational Information Network's (USEIN) start-up planning, organization, and diffusion. The paper initially focuses on a consideration of education information and its users. The literature on collaboration and partnership is reviewed for the purpose of looking at successful collaboration factors applicable to an information network of education resources. A generic listing of "Best Practices" is provided, using factors derived from case studies of collaborative ventures. A visualization of USEIN as an umbrella networked information system depicting relationships with its stakeholders concludes the paper. (Contains 37 references.) (Author/SWC)

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Model Organizational Structures and Best Practices for Successful National Collaborative Information Partnerships

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Kick-off Conference
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Abstract: *Linking information to education users goes beyond information organization issues, such as abstracting, indexing, and information filters. It is a social issue as well. This paper focuses upon the social dimensions of education information, as expressed in partnerships needed for USEIN's start-up planning, organization, and diffusion. The paper initially focuses on a consideration of education information and its users. The literature on collaboration and partnership is reviewed for the purpose of looking at successful collaboration factors applicable to an information network of education resources. A generic listing of "Best Practices" is provided, using factors derived from case studies of collaborative ventures. A visualization of USEIN as an umbrella networked information system depicting relationships with it's stakeholders concludes the paper.*

1.Education Information: Definition, Characteristics, and Practice

Education Information

Before planning the implementation of the United States Education Information Network (USEIN), it is important to focus on exactly what would constitute the information that will be disseminated by USEIN. For the purposes of this paper, the assumption has been made that USEIN will be primarily an electronic information network connecting the diversity of sources and resources.

An understanding of what constitutes "education information" needs to encompass prior perspectives, (such as Library of Congress Subject Headings and Dewey Subject Headings, ERIC Descriptors, Education Index controlled vocabulary) as well as current practice on Internet. Education information, if conceived broadly, involves many parameters: practice, process, history, legislation, public interest, and pedagogy research, to mention a few. A definition of "education" demonstrates the enormous conceptual territory that would be covered by information about education:

> **Education**. **1**. Any process, formal or informal, that helps develop the potentialities of human beings, including their knowledge, capabilities, behavior patterns, and values. **2**. The developmental process provided by a school or other institution that is organized chiefly for instruction and

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> learning. **3**. The total development acquired by an individual through instruction and learning. **4.** In business or official connections, the institutional instruction that the individual has had. **5**. The area of study concerned with teaching and learning, including professional teacher education. (from A Concise Dictionary of Education, p.72)

Without boundaries defined for the beginning USEIN, the workloads involved in "covering" the total field for the diversity of users and producers would be overwhelming without considerable assets (staff and budget). There is a start-up priority for a working definition of what constitutes education information for the purposes of USEIN. Such a working definition must consider scope as well as audience (who will be using the information? Teachers? Students? All?) .Also, any definition needs to be provisional, since current practice may reshape the boundaries through evaluations of USEIN in the future.

Characteristics of Education Information and Its Users

Education as a field has a public quality to it not seen in other knowledge communities. Education is mandated and monitored by legislation and agencies at all levels of implementation, has advocacy groups that emerge from many sectors of the public, and receives mandated local, state, and federal support. Users and producers of education information are a multicultural community, mirroring the society as a whole. Despite the challenges presented, the task of education community description needs attention so that information unification efforts are not strictly based on technology (Pahre, 1996). Knowing the stakeholders in this community and how they are socially arranged, in conjunction with the ways information is generated and dispersed by them, is important for USEIN.

"Knowledge Community" as defined in a sociology of knowledge perspective (Pahre, 1996), focuses on the boundaries, methods of acquiring knowledge, transmission and diffusion of knowledge, and development of new sub-fields. Attention to this perspective in identified scientific communities has received three decades of attention There are difficulties involved in trying to transfer the "sociology of knowledge" perspective , to education as described by Pahre in an article about social sciences information organization (1996). It has been done, as seen in the organization of the LC Subject Headings and in encyclopedias of education. Yet, more is needed: Education as a field is more diverse than scholarly compilations or library organization schemas. And education on the Internet encompasses sources not reflected in prior controlled vocabularies. The social connective structure might be described as a community of communities, since education encompasses varied methodologies, disparate review systems, differing practice situations, and an uneven diffusion of research findings. The very character of the field is

shaped by the multiplicity of sources, knowledge structures, and communication paths, all made even more visible through rapid expansion of the Internet.

Research on the specific skills for uses of education information by school administrators and staff (Davis, 1987), graduate students (Morner, 1993, Libutti, 1991 , Libutti and Kopala, 1995), graduate education faculty (Zaporozhetz, 1987), and children (Bergman et al. 1990) provide limited perspectives on practice. New studies have been done on the users of networked education information, which is needed to provide important information for user-centered design of the USEIN network (Fuchs, 1997; Stuve, 1997; Julian,1997; Martin, 1997; Cohen, 1997; and Seguin, 1997). Although research is not uniformly in place about all stakeholders for an education information network, Web sites provide discrete windows on what is valued for most of them. An emergence of K-12 Web pages is a window on the kinds of information teachers and students consider important. Similarly, the creation of education Web pages by academic librarians provide priority perspectives for the academic sector. The 16 ERIC Clearinghouses provide Web links which connect a diversity of users and producers, all important for the consideration of who uses education information. Leading producers of education information, such as the Buros Institute, have contributed to resources on the Internet that is relevant for the USEIN.

The use of Web technology makes it possible for any producer and any user to be involved in the production of education information. This surge in publication possibility does have a "down side": the proliferation of available information and need for filtering of information for importance. This task will be crucial for USEIN: a simple connection of all available education information would not be as valuable a product as a site linking well considered, evaluated pages (Arnheim, 1997).

An examination of Education Web pages indicates that fluidity of boundaries is needed. Members of the Education and Behavioral Sciences Section, ACRL, provided the author with URL's for the pages they created. Since these librarians have linked resources relevant to their constituencies, looking at what resources have been selected provides a snapshot of priorities of information linkage for particular users.
The following examples of education information available on Web pages demonstrate the often unique contributions. made by education librarians. (The librarians, their institutions, and URL's are listed after References at the end of this paper). The University of North Carolina at Charlotte, for example, maintains a curriculum materials Web page which includes the curiosity-eliciting entry: "Jackdaws", prepared by Judy Walker (1997). The University of Oregon at Corvallis has a page with a search process diagram prepared by Jean Caspers (1997). Lesson plan archives have been collated by Deborah Rollins, University of Maine (1997). Education book reviews have been prepared and mounted at the University of Michigan by Kate Corby. The University of Delaware's Learning Resource Center has a lengthy listing of bibliographies online., as well as local information about Delaware Education initiatives (Beth Anderson, 1997.)

Annotated education journal listings have been collaboratively compiled and can be accessed through the University of Wiscinsin, Madison (Jo Ann Carr, 1997). Commercial sites have been linked to the University of Mississippi site (Sheila Wheat, 1997). Marsha Tate and Jane Alexander of Widener prepared a Power Point presentation on evaluating Web information, as have several other librarians (Auer, 1997) These kinds of resources might best be organized along a Library Orientation Exchange (LOEX) model, and cataloged (Jul, 1997).

2. Collaborative Partnership Structure and Practice: A Scan of the Literature

Collaboration is a part of a continuum of connection between two or more organizations or individuals working on a task of mutual interest and benefit. The least connected part of the continuum is that of cooperation, in which organizations or individuals work in parallel ways on tasks. There is little visible change in organizational structure in cooperation. Collaboration involves structural changes in organizations, including financial and personnel allocations (Doan, 1995). Partnership might best be viewed as an intense form of collaboration.

One of the most comprehensive reviews of literature on collaboration (Mattessich and Monsey, 1992) synthesized existing studies of collaborative ventures across government, academic, and business sectors and extracted factors that "makes it work". Prominent among these factors are the following factors and sub-factors:

•"***Environmen***t (History of collaboration or cooperation in the community, collaborative group seen as leader in the community, political/social climate seen as favorable)
•***Membership***: (Mutual respect, appropriate cross-section of members, members see collaboration as being in their self-interest, ability to compromise)
•***Process/Structure***: (Members share a stake in both process and outcome, multiple levels of decision making, flexibility, develiopment of clear roles and policy guidelines, adaptability)
•***Communications***: Open and frequent communication, established informal and formal communication links,)
•***Purpose***: (Concrete, attainable goals and objectives, shared vision, unique purpose)
•***Resources***: Sufficient funds, skilled convener) "(From Mattessich and Monsey, pp.14-15).

These six main factors need to be kept clearly in sight as the USEIN translates goals and objectives into a tangible organizational model. One method to ensure more visibility of such factors is to follow the evaluations of similar initiatives and examine findings and recommendations (Moen and McClure, 1997, to be described in a later section).

Partnership as an area of interest has emerged in the late 1980's and 1990's for a number of pragmatic reasons. Social conditions of resource management and allocation, together with factors of mutuality of interest have been a part of the attention now being paid to "partnering" seen in many efforts (Clarke and Lacey, 1997; Nicholls, 1997, Doen, 1995).

Partnerships as social entities, studied for their structure, dynamics, and outcomes, evolved from the field of Group Dynamics, popularized in the 1960's and 1970's. Research findings concerning the interactions of dyads and groups led to an interest across academic, business, and government sectors in management. The characteristics of the literature on partnership features strategy in planning (Bergquist et al., 1995) strategic partnerships, and effects of partnership on the use of resources. The very essential points of a partnership in business include: efficiency, flexibility, expanded resources, expanded markets, a sense of interdependence, and an opportunity for personal gratification (Bergquist et al., 1995).

Within the Library sector, "partnerships" have been a focus in the literature for more than a decade. An inspection of the Wilson database "Library Literature" yielded 130 + discrete entries that used the term "partnership" in the title or subtitle. The search was restricted to United States libraries, and excluded book reviews. An examination of the kinds of relationships described in this literature yielded several categories, with most titles revealing the connections of persons and organizations:

- partnership within a library,
- partnership within an institution or association,
- partnership with foundations,
- partnership with commercial sources, especially vendors and publishers
- partnership with government,
- partnership across libraries/communities,
- partnerships across multiple sources.

The largest segment of the literature was on partnerships formed at a local level: within-library (such as technical services-library), within an institution (librarian-faculty or school media specialist-teacher partnerships), or community liaisons (public libraries-school libraries, public libraries-community). Literature that focused on academic libraries covered consortium collaborations, partnerships with corporations, partnerships within national and state library associations, and government-library initiatives.

The literature on partnerships also included associated management styles. Perhaps the most visible management model in the literature that is considered to nurture collaborative ways of operating is that of **Total Quality Management** (TQM). The TQM process emphasized the need to rethink the traditional hierarchy-based organizational structures, and has been described in applications in the library sector (Koval-Jarboe,1996). The kinds of collaboration seen in ACRL's 1997 Conference in Nashville involved resource sharing, task sharing (Carr, 1997), and collection development (Shabb, 1997). Another organizational structural component reflected in recent literature is that of **"Structuralization for digital information in organizations"** (Rosenbaum, 1997), which takes into account the kinds of social relationships, rules, protocols, and methodologies that arise from a considerationof the commodity being developed, in this

case, digitized information. Nervins (1997) noted that the library culture has always been a collaborative culture. Noting that "collaboration" takes differing shades of meaning in different cultures is important---business is conducted differently by libraries, government, industry, foundations, and academia. An example of these differences can be seen in articles in the Harvard Business Review that stress the rewards of collaborating with competitors. Since USEIN is, presumably to be a government-supported operation, the kinds of organizational structures that are in place to do business, government-style, need to be known (Osborne and Gaebler, 1992). Encompassing views of collaboration , commodity as organizer, and subsequent management structures will be a major challenge for USEIN's planners.

3. Participants in USEIN: Some considerations of information type, tools, and future partnerships

Many types of education information are well organized in the academic, special, state, and organizational libraries and archives in the United States. In addition, much information that is relevant to educators has emerged in electronic form on the World Wide Web. An inventory of such collections and the linking of them with pointers or access arrangements is a first step towards identifying what partnerships are needed (Jul, 1997).

The most unified source of education information is the **Educational Resources Information Center** (ERIC), which has a long history of strategic partnerships and organization for awareness, access, and delivery. Although primarily covering print resources since 1966, recent resources include Web sites linked by ERIC, under Clearinghouses and Adjunct Clearinghouses. ERIC has developed a framework for USEIN participation, along with a realistic perspective of the financial support needed to maintain existing ERIC service levels (ERIC Task Force on the Operations Framework, 1997).

Examining the screens of Web pages maintained by ERIC shows a wide variety of partnership efforts, from affiliation with parent advocacy groups to lists of university home pages. These need to be inventoried and described as part of planning for partnerships. It would probably be relevant to examine what aspects of ERIC' s partnerships have worked particularly well, since many of them have been long-standing, as a guide for expansion of partnerships for USEIN.

Academic institutions have materials potentially valuable in an education information network. Examples of information that is considered important for the academic sector include:

- Works in progress,
- dissertation topics being explored,
- reports of local partnerships between school and industry

- Associations archived papers presented at conferences, some of them hyperlinked with supporting references and background papers. (Qualitative Research Text Resources, http://www.nova.edu/SSSS/QR/text.html#intro).
- AERA has made links to the 1997 AERA Annual Meeting papers available by Web (http://aera.net/meeting/papers97.html).

Prototypes of tools relate to more precise ways of identifying relevant sites on the Internet need to be considered for planning the USEIN. Web page recommender sites (information filtering) include **Virtual Review** and **Fab**, among others (Arnheim, 1997; Balabanovic & Shoham, 1997). News of these sites are exciting, but when one follows them from their print emergence to their presence on the Web, the results have been disappointing, e. g., too many have resulted in messages such as: "are to emerge in another form soon" (Virtual Review, 1997) or "can take no more users now" (Fab, 1997). These interrupted academic ventures are potentially useful for USEIN, and need review as to what needs to be done to make them effective.

An inventory and description of each unique education Internet site is a slippery task, given the instability of access to such resources . Several recent developments in this area appear relevant. A URL Stability Index has been calculated for educationassociation sites by the Scholarly Associations Project, University of Waterloo. The implementation of a PURL (Persistent URL, Jul, 1997) would be essential to such an inventory. Sutton's report on **GEM** (1997) describes another process useful in the organization of education resources. The **Gateway to Education Materials** will provide the educator with uniform descriptions of materials, such as lesson plans, so that relevance can be assessed quickly. A component of this effort was the development of a metadata structure that is applied uniformly. This project developed from a convening of stakeholders that seems similar to USEIN' s Kick-off Conference.

Other stakeholders in USEIN have entered into web ventures in partnership with industry and government The American Library Association is at the forefront of library organizations that have entered into partnerships with diverse partners. Public and private schools have emerged on the Web, in pages designed by teachers and students. These Web pages are exciting, providing a window on the thinking of the next generation. Further, Internet is actively used in classrooms for teaching and learning, as reported in dissertations prepared in 1997 (Fuchs, 1997; Stuve, 1997; Julian,1997; Martin,1997; Cohen, 1997; Seguin, 1997). The variety of uses of Internet-available information by K-12 educators is part of the information base for USEIN design.

Commercial ventures in organization of Web information have proceeded without benefit of Library of Congress headings. Even so, most would agree that Yahoo's subject tree for education is comprehensive and valuable, as seen in the numerous education Web pages that link to it as a gateway for their users. Other commercial ventures have collated web reviews, with caveats. **Lycos** has reviews of the "top five percent" of sites, **Yahoo!**

collates reviews of sites reviewed in their magazine (http://www.yahoo.com/) These, and other commercial review pages specify their criteria, which vary from site to site.

Citizens with an education interest have formed networks in person, print, and electronically. Their interests and needs make them part of the process. A focus on the content on parent networks would provide insight into what kinds of information needs exist in the general public. ERIC's National Parent Information Network (NPIN) has served a valuable role by gathering sites, including newsletters, organizations, other parent-information sites, and resources for parents.

4. Case Study of Partnerships: Web Pages Prepared by Education Librarians

A brief qualitative analysis of Education Web pages focuses on the partnerships behind the pages. Looking closely at pages already prepared yields information about the social and conceptual organization involved in their preparation. Education Web pages gathered from responses to a posting to the **EBSS-L Listserv** were explored. (A full listing of the Web pages used for this analysis follows the References).

Although there is much information in the Web pages potentially available for thematic analysis and examination for sources of information, this scan focuses only on the occurrences of existing partnerships apparent on the Web pages. The categories of partnerships that emerged from examination were: within-institution partnerships, cross-sector partnerships, commercial partnerships, and support partnerships (other than commercial). The inclusion of **ERIC** and the **National Library of Education** on a web page was also checked. Financial support of the web pages was gleaned from acknowledgments. This "first pass" at examining the web pages revealed a convergence of commercial, institutional, government, and library resources involved in the design of the pages.

Many of the Web pages examined were prepared by teams within a university. The most common partnerships were with: computer programmers, Department of Education faculty, students, local school systems and other librarians, acknowledged either in the response to the list posting or on the page itself. All pages examined had links with other organizations, thereby crossing many discipline boundaries. Cross-fertilization is rampant: other libraries' and organizations' sites are commonly linked. Such linking includes all or parts of another library's education. Links held in common that were prepared by other librarians included lesson plan collections, journal annotations (Carr, 1997b), and webliographies
(Caspers, 1997).

The Web pages examined regularly linked to commercial Webs as organizing devices. **Yahoo!**was the most frequently linked commercial indexing source. Other commercial sources frequently linked included Academic and Instructor magazines. **The Department**

of Education site, linked to by all pages, has a listing of commercial Web search engines available for all to explore.

As one would expect, all pages had links to **ERIC**. The arrangement of the links varied in the layer one would find the link. Some pages organized local resources first, with federal and other academic links appearing in deeper levels of organization, conversely, others had ERIC as one of the first sites linked to access. Links tothe
(NLE) were not seen across all sites. Those links to NLE that did appear varied in the level one had to access before reaching the link.All sites were supported by their parent institutions, as seen by copyright statements and institution names. Some support can perhaps be inferred by the existence of links to foundations, such as the Getty Foundation for the Study of the Arts. Some sites were supported in their formation through grant funding (Fiscella, 1997).

The interweaving of commercial, academic, and government aspects were seen on many sites. Publishers and educational materials producers have made catalogues available on the web, materials that are collected by school districts and curriculum centers (such as **Scholastic Publishers** at □ http://www.scholastic.com and journals at http://www.academic.com). Reviews and evaluations of these publications and products are sparse, indicating another information gap that USEIN may choose to try to fill.

5. Partnerships Categorized by Type and Task for USEIN

Partnerships can be described by the nature of the collaborative bond and the kind of task that is the focus of the partnership. Listed below is a typology of stakeholder partnerships, emerging from the examination of education Web pages and the background review of the literature on partnership and collaboration.

----------Insert Figure 1 about here----------

Teaching-Learning Partnerships

Initially, USEIN may want to explore Teaching-Learning Partnerships with organizations, initiatives, and operations that are working towards the same goals as USEIN. Examining the progress of digital libraries and their methodologies for assessing what a subject-specific group of users specify they do would be useful. The Digital Library Initiative, located at five universities, contributes differing perspectives. Particularly relevant is the University of Illinois at Champaign- http://www.uiuc.edu/dli), which includes the focus group notes of the Social Science Team. This resource provides methodologies that would be useful in examining how a discipline-specific group was assessed for information needs in a digitized environment. USEIN might spend some time investigating the data collected on the Agricultural Information Network, since the participation of librarians is part of the data.

Moen and McClure's (1997) report on GILS uses both qualitative and quantitave analyses to examine the functioning of the Government Information Locator Service. Among their findings were:

- Confused purposes and expectations of what GILS should be,

- Lack of clear government-wide objectives to guide agenciesi implementations
- Expectations for functionality from GILS that were not realistic
- Lack of government-wide coordination, management, and oversight.
- Insufficient senior agency management attention and allocation of resources
- Lack of demonstrable benefits to agencies
- A non-workable records component of GILS

(Moen and McClure, Executive Summary, http://www.access.gpo.gov/su_docs/gils/gils-eval/html/exsum.html)

Recommendations included

- "refocusing GILS for clarity and utility,
- Improving GILS efficacy in networked information discovery and retrieval,
- resolving GILS relationships with other information handling functions and processes,
- and increasing GILS awareness"

(Moen and McClure, Executive Summary, http://www.access.gpo.gov/su_docs/gils/gils-eval/html/exsum.html)

These findings are specific examples of organizational structural aspects needing attention from the very beginning of USEIN planning. It is highly likely that USEIN will be facing many of the same issues.

Contractual Partnerships

USEIN will undoubtedly use contractual partnerships with a wide variety of individuals, groups, and organizations to accomplish the task of unifying information sources. The barriers to seamless information organization are many, as described by Moen and McClure (1997 and by David Stern, (Stern, 1997). Stern notes that the lack of cooperation between librarians and vendors is one of the reasons that existing technologies for information access are not in place. A review of user-vendor groups, such as that described by Presley and Robinson (1989) may flesh out such a judgment.

Participant Partnerships: Users and Contributors

Organizations most identified with the collection, organization, access, and evaluation of information were clearly present on the web pages, either by design (web page author was a member of such organizations) or links. However, all groups are participants to some degree . What distinguishes contributors in this partnership type is the factor of active contribution of information to the system. The information may be a site link, an information product, a research paper, a focus group interview, or service needed for maintenance of the system.

Support Partnerships

The financial support of an organization (philanthropic, grant-providing, professional) can usually be seen in Web pages. This is an essential kind of partnership, one to be pursued by USEIN. Methods of obtaining financial support need to be shared with USEIN participants. Another kind of support partnership is for purposes of publicity and public relations. USEIN needs to make itself visible through media, journal, and professional publications, as well as by it's Internet presence.

6. Research Initiatives to Support Collaborative Partnership Practice in USEIN

Research on Partnership: Long-term Relationships

What has not received attention in most of the literature on collaboration and partnership is the problem of maintaining a partnership and the changing nature of partnership (Bergquist, et al., 1995). The collaborative partnerships previously mentioned (EdLibWeb, Webliography, DLI, and others) have not existed long enough to find out what happens when the initial stages move to maintenance and change. Research in business ventures indicates that partnerships are risky, and many fail. Attention to failure , as seen in the Moen and McClure (1997) report, as well as success factors (Mattessich and Mosely, 1992) is relevant to the start-up of USEIN.

Perhaps the closest available relevant data exists on the many partnerships developed by ERIC since 1966. Studying both the maintenance and change factors would provide essential information at the start-up stage of USEIN. Using the research methodology of contextual analysis on data gathered from selected partnerships would provide a grounding in the actual characteristics of relationships termed collaborative partnerships. Examining effective partnerships, identifying "Best Practices", and analyzing the organizational structures of long-term partnerships is a necessary component of future research to support USEIN.

Evaluation: Formative "Best Practices"

As USEIN begins, the kinds of organizational structures seen in current partnerships and collaborations should inform beginning initiatives. Since much has been evaluated in behaviors seen as detracting from an information service (Moen and McClure, 1997), the recommendations from the GILS report should be useful to "learn by others experiences". USEIN will be a hybrid enterprise, needing other research bases as well as that seen in the Moen and McClure report (1997). If one takes the primaray findings from the GILS report and constructs an inverse set of expectations, the resulting listing would form a spoecific listing of "Best Practices" to guide the planning proces of the USEIN

- Confused purposes and expectations of what GILS should be---***>Clarity of purposes and expectations***
- Lack of clear government-wide objectives to guide agenciesi implementations---***>development of clear government-wide objectives to guide the agency implentations***
- Expectations for functionality from GILS that were not realistic---> ***Realistic expectations for functioning***
- Lack of government-wide coordination, management, and oversight,---> ***attention to government-wide coordination, management, and oversight developed by examination of the relevant factors in heDept. of Education,***
- Insufficient senior agency management attention and allocation of resources---***>ensuring sufficency of management attention and allocation of resources***

- Lack of demonstrable benefits to agencies---> ***demonstrating value of USEIN to relevant agencies***
- A non-workable records component of GILS (***This finding may not be applicable to the lanning of USEIN: several records management options are in place that would most likely be atisfactory: ERIC, GEM, for instance)***

Research: User Access and Practice with Networked Information

Dissertations done during 1997 have provided a glimpse of the applications of Internet in K-12 classroom settings, college courses, and library use. What patterns of use would we expect to find with a parent population? A publisher? A teacher? What access to networked information might be possible for disadvantaged populations? These questions should form a research agenda, along with organizational effectiveness and collaboration over time.

7. Vision of USEIN in Operation

What, then, would be an appropriate model for the beginning of USEIN? A visualization of USEIN's organizational structure has been developed using the factors of successful collaboration (Mattessich and Monsey, 1992) along with the findings from the Moen and McClure report on GILS (1997).

Goals are implicit in the legislation delineating the formation of the National Education Library, of which USEIN would be a visible link. Parts of this vision are already in place as a legacy, as a commitment, and as a legislative mandate. In 1994, the National Library of Education was launched from the following legislation: The Educational Research, Development, Dissemination, And Improvement Act of 1994 (20 USC 6051) states that the mission of the Library shall: ...

> " become a principal center for the collection, preservation and effective utilization of the research and other information related to education and to the improvement of educational achievement; to strive to ensure widespread access to the Libraries facilities and materials, coverage of education issues and subjects, and quality control; to have an expert library staff; and to use modern information technology that holds the potential to link major libraries, schools, and education centers across the United States into a network of national educational resources." (Section 951(c) of The Educational Research, Development, Dissemination, and Improvement Act of 1994 (20 USC 6051).

Access for All: A New National Library for Tomorrow's Learners (National Library of Education Advisory Task Force, 1997) contains a description of a future education

information network as a "***hub of a national network of libraries, archives and other information providers in the field of education***" (p. vii). A visualized circular structure, using a hub as the center, depicts USEIN conceptually: The National Library of Education and stakeholders by type with NLE as the coordinating factor across all the sectors. Figure 2 depicts an organizational schema which utilizes Mattessich's and Monsey's collaboration factors, which can serve as a generic listing of "Best Practices".

Purpose: Concrete, attainable goals and objectives, shared vision, unique purpose). ***It is important to note that the sectors of the organization, no matter how located in relation to the center hub USEIN, are considered as participants. As part of the operations of USEIN, connections with each sector need to be planned for maximum responsiveness.***

Communications: Open and frequent communication, established informal and formal communication links) ***The circle connects all stakeholders with dotted lines indicating both permeability of boundaries and flow of communication in all directions.***

Membership: (Mutual respect, appropriate cross-section of members, members see collaboration as being in their self-interest, ability to compromise). ***The visualization encompasses broad sectors which represent the diversity of participants.***

Environment (History of collaboration or cooperation in the community, collaborative group seen as leader in the community, political/social climate seen as favorable) ***The components of the circle are shown loosely divided, since influence between and among them is likely through the increasing practice of partnership seen throughout education***.

Process/Structure: (Members share a stake in both process and outcome, multiple levels of decision making, flexibility, development of clear roles and policy guidelines, adaptability).) ***Since the technology to be used for an information network features interactivity, it is just as possible that the stakeholders in USEIN could be both producers and users of education information. Therefore, there is a two-way connection between the hub and stakeholders.***

Resources: Sufficient funds, skilled convener). ***The visualization depicts as spokes several of the kinds of operations necessary to mobilize USEIN as an effective structure for information assistance, access, awareness and accountability. The center of the hub is NLE as the "convener", coordinator of activity.***

USEIN planners now need to address such structural elements with an eye on what has happened. The GEM project (Sutton, 1997) the GILS evaluation (Moen and McClure, 1997) and the "Structuralization-of digital-information" perspectioves (Rosaenbaum, 1997) provide real-life accounts of similar initiatives, as do the accounts of collaborative efforts with industry (Clarke and Lacey, 1997). There is no doubt that with a beginning

that includes all stakeholders to share their visions, USEIN planners have sufficient input for launching the network.

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Partnership by Type	Potential Members	Likely Tasks
Teaching/Learning Partnerships	USEIN + other organizations with same or similar goals	Reviewing practice
		Examining for
		adaptation for solutions to USEIN tasks
Contractual Partnerships	Identified Providers	Preparation of Product Research Report. etc as per specifications
Participatory Partnerships Users &	Representatives of diverse users of USEIN	Advisory:evaluation recommendations
Contributors	Providers of information	Provide necessary information or pointer for linkage deemed relevant for USEIN linkage
Support Partnerships	Organization leaders. media	Development of financial support
		Sponsorship of USEIN ventures
		Publicize value of USEIN

Figure 1. Typology of Stakeholders as Partners in USEIN

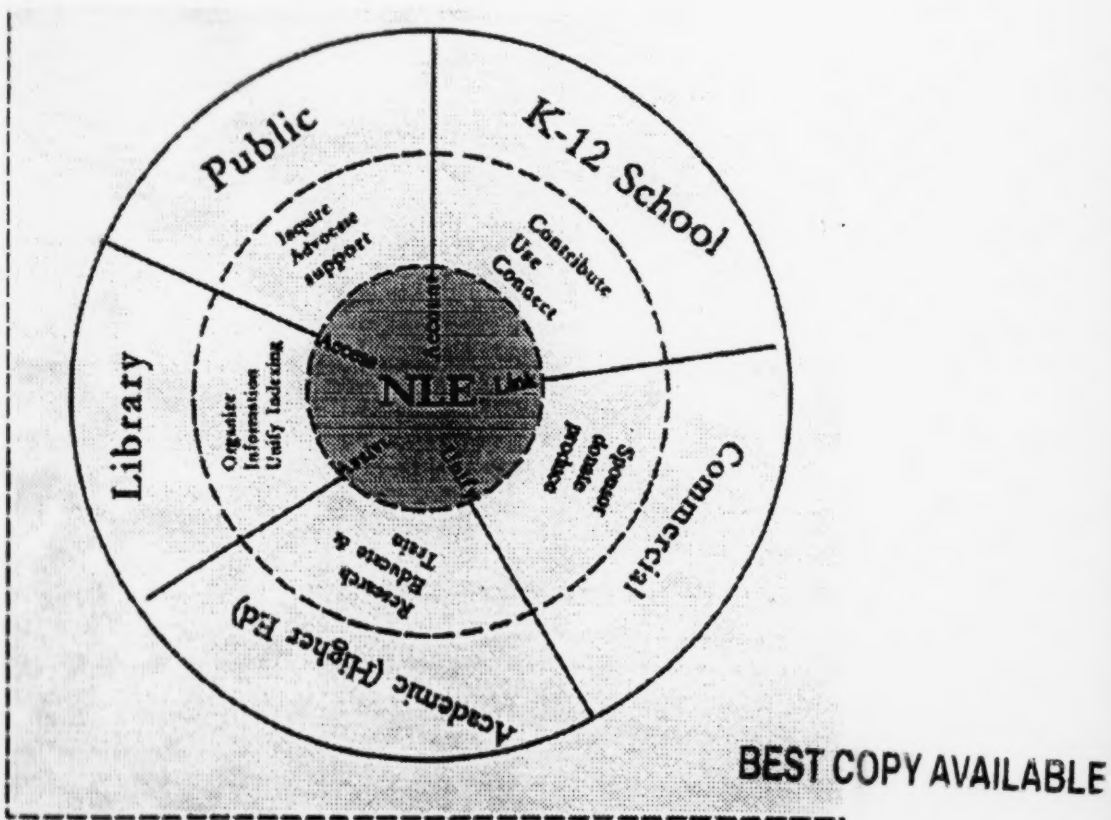

Figure 2. Visualization of USEIN: NLE and Stakeholders